

REMARKS

Reconsideration of the application in view of the following remarks is requested.

Claims 1, 3, 4, 5, 6, 7, 8 and 9 are pending.

Claim 1 is directed to a process that entails treating water with ozone. The water is characterized in terms of pH, TOC, and its content of carbonic acid or carbonates and of salt. The process is characterized in terms of temperature, pressure and time.

Claims 5 that depends from Claim 1 requires the water to be the waste water from the production of polycarbonate by a stated process.

Claim 6 restricts the scope of Claim 5 by requiring the polycarbonate to be derived from bisphenol A.

Claim 7 that depends from Claim 1 requires the pH of the water to be treated to be less than 7 and the resulting water to exhibit a pH that is higher than 7.5.

Claims 1 and 5-7 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Shigeniwa et al in view of Sanyo, both of record.

Shigeniwa disclosed a process for treating tap water with ozone for the purpose of removing musty-odor matter. There is nothing in the document relative to water containing salt at the presently recited level (2 to 20 wt%). Sanyo is said to have been cited to show that tap water would inherently contain at least the amount of common salt claimed.

It will first be noted that "tap water", the subject matter common to both documents, is not an element of the claimed process. Second, contrary to the Examiner, "tap water" does not contain the presently recited amount of salt.

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In his remarks the Examiner states that "The Sanyo patent is cited to show that tap water inherently contains enough chloride, that electrolysis of said tap water would produce water that has sterilization properties".

The Applicants fail to appreciate the significance of the allegation that "electrolysis of tap water will produce water that has sterilization power" in the present context. An explanation will be appreciated.

Examiner's statement respecting the concentration of chloride has been noted. This statement reads as follows:

"If the tap water has a concentration of chloride below the claimed range, such a sterilization producing water could not be obtained"

Not only is the stated conclusion unsupported, its relevance in the present context is not at all clear. Clarification is indicated.

Also noted is the further Examiner's statement that reads:

"Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention that tap water would inherently have the claimed amount of chloride, because the Sanyo patent teaches that tap water when electrolyzed will produce sterilization"

The statement and its relevance in the present context are not clear. Further unclear is the present relevance of the stated "sterilization". Moreover, the statement is plainly erroneous: tap water typically has close to 0.1% salt concentration, which is at least an order of magnitude less than the claimed amount (2-20wt%) of salt. Attention is directed to the enclosed document obtained from the Municipal Authority of the Borough of West View showing what is believed to be typical analysis of tap

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water. Accordingly the total salt content is measured in terms of ppm (parts per million).

Neither Shigeniwa nor Sanyo are seen to disclose any of the limitations recited in Claims 5, 6 and 7.

The rejection of Claims 1 and 5-7 under 35 U.S.C. 103(a) over Shigeniwa et al in view of Sanyo is clearly untenable and its retraction in light of the above is respectfully urged.

Claims 3, 4, 8 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeniwa in view of Sanyo and further in view of Bennett or Mucenieks of record.

Independent Claim 3 is directed to a process for producing chlorine by electrolysis of salt, the source of the salt being an aqueous solution obtained by ozone treatment of water conforming to stated specifications including the presence of 2 to 20 wt% salts. Dependent Claim 4 is directed to an embodiment wherein the electrolysis is by the membrane process. Claim 8 requires the water to be derived from the production of polycarbonate and Claim 9 recites pH values of the water supplied to the process.

Bennett disclosed electrolysis of saline solutions that contain iron and manganese impurities. Pre-treating of the solutions with hypochlorite solutions is said to prevent formation of deleterious deposits. Mucenieks disclosed removal of oxidizable impurities from sodium chloride brine. The process entails adding hypochlorite to the brine.

While the elements of the present invention are old, their combination as presently claimed has not been disclosed. The Examiner's assertion to the contrary notwithstanding, Applicants respectfully submit that the stated rejection is predicated on impermissible hindsight.

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There is nothing in the cited documents respecting the limitations recited in dependent claims 4, 8 and 9.

Reconsideration of the rejection and its retraction are requested.

Believing the above represent a complete response to the Office Action and that the application is in condition for allowance, Applicants request the earliest issuance of an indication to this effect.

Respectfully submitted,

By


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Water Analysis

Calcium*	90	ppm as Ca as CaCO ₃
Magnesium*	26	ppm as Mg as CaCO ₃
Sodium*	15	ppm as Na
P. Alkalinity	2	ppm P. Alk. as CaCO ₃
Total Alkalinity*	44	ppm Total Alk. as CaCO ₃
Chloride*	65	ppm as Cl
Sulfate	106	ppm as SO ₄
Nitrate	0.9	ppm as NO ₃
Nitrite	<0.05	ppm as NO ₂

Total Iron	0.010	ppm as Fe
Total Manganese	0.015	ppm as Mn
Chlorine	0.8-1.2	ppm as Cl ₂
Total Hardness*	116	ppm as CaCO ₃
Total Hardness*	6.8	grains/gal as CaCO ₃
Fluoride	1.0	ppm as F
Lead	<0.001	ppm as Pb

Specific Conductance*	366	Micromhos/cm
pH	8.3-8.5	
Turbidity	0.04	NTU
Color	1	APHA Units
Total Dissolved Solids*	182	ppm
Average Trihalomethanes (THM) for last four quarters*	0.0481	ppm
Total Coliforms per 100 ml.	<1	

* = will change seasonally

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